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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/728,224	12/03/2003	Robert J. Atmur	024.0022	7502

29906 7590 08/10/2005

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EXAMINER

NGUYEN, TAN QUANG

ART UNIT	PAPER NUMBER
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3661

DATE MAILED: 08/10/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/728,224

Applicant(s)

ATMUR, ROBERT J.

Examiner

TAN Q. NGUYEN

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3,6-13,17 and 18 is/are rejected.
- 7) ☒ Claim(s) 4,5 and 14-16 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 12/03/03.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAIL ACTION

Notice to Applicant(s)

1. This application has been examined. Claims 1-20 are pending.
2. The prior art submitted on December 03, 2003 has been considered.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 11, 17 and 18 are rejected under 35 U.S.C. 102(e) as being anticipated by Luo et al. (2004/0114768).
5. Luo et al. disclose a method for actively damping a noise with a motor which includes the steps obtaining a measurement of the noise, processing the measurement to produce a control signal for the motor as a function of noise, and providing the control signal to the motor to adjust an acoustic signal produced by the motor (see figures 1, 3 and 6).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1-3, 6-10, 12 and 13, are rejected under 35 U.S.C. 103(a) as being unpatentable over Luo et al. (2004/0114768) in view of Takeuchi et al. (5,994,868).

8. With respect to claims 1, 2, 9, 12 and 13, Luo et al. disclose a system and method for noise cancellation which includes the steps of observing noise produced within the electric motor for at least one of the plurality of phases (see at least figure 6, item 402), determining a noise canceling frequency for at least one of the plurality of phases, and applying such noise canceling frequency to the at least one of the phases (see at least figure 6 and the related text).

9. Luo et al. do not disclose the use of the transfer function for controlling the noise reduction. However, Takeuchi et al. suggest a motor control device which includes a filter having a transfer function for suppressing the disturbance (see at least the abstract and figure 1). It would have been obvious to an ordinary skill in the art at the time the invention was made to incorporate the teaching of Takeuchi et al. into the system of Luo et al. in order to provide the system with the enhanced capability of using the transfer function to reducing the noise in the electric motor.

10. Luo et al. do not disclose that the device is a vehicle. However, it would have been obvious to one ordinary skill in the art to realize that the electric motor are widely

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used in the vehicle, where it generates noise. Thus, it would be motivated to use the system for reducing noise in the vehicle.

11. With respect to claim 3, Luo et al. also disclose that the use of feedback loop is well known in the art at the time the invention was made (see at least paragraph 0004).

12. With respect to claims 6-8 and 10, the limitations of these claims have been noted in the rejections above. They are therefore considered rejected as set forth above. It is noted that the electric motor is also known of being used in the unmanned underwater vehicle. Thus, such noise cancellation can be used in the unmanned underwater vehicle.

13. Claims 4, 5, and 14-16 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

14. Claims 1-3, 6-13, 17 and 18 are rejected. Claims 4, 5, and 14-16 are objected.

15. The following references are cited as being of general interest: Markunas (4,751,438), Somers et al. (5,477,674), and Makino et al. (6,564,110).

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to examiner Tan Q. Nguyen, whose telephone number is (571) 272-6966. The examiner can normally be reached on Monday-Thursday from 5:30 AM-4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Black, can be reached on (571) 272-6956.

Any response to this action should be mailed to:

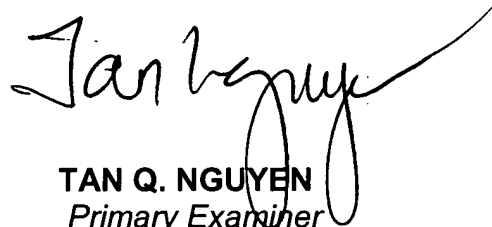
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or faxed to the Official Fax Center: (571) 273-8300

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/tqn
August 8, 2005


TAN Q. NGUYEN
Primary Examiner
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